der ID 120519 \*120519\* June 04, 2014 3:07:26 PM D3492-1 AD: Accept \*N900040100\* Setup Start Révision ID: Stop **Item Name:** Plug **Start Date:** 6/04/14 **Start Qty:** 60.00 **Cust Item ID:** Required Date: 6/04/14 Req'd Qty: 60.00 \*60\* **Customer:** Reference: Run Process Plan: MLJ Date: 1406-09 Tooling: Approvals: Date: Stop Date: \_\_\_\_\_ SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID Description **Run Hours** Code Qty **Qty** Number Stamp Draw Nbr **Revision Nbr** D3492 E 100 0.00 Hardinge CNC LATHE SMALL \*100\* 60 0 Hardinge 0.00 Memo Hardinge CNC Lathe Small 1-Turn as per Folio FA633 & Dwg D3492 Dwg Rev: E
Folio Rev: AA

110

QC2- Inspect parts off machine FAI/FAIB

0.00

DAS 60 0

\*110\*

OC Quality Control

Memo

0.00

20

120

QC8- Inspect parts - second check

0.00

\*120\*

QC

Memo

0.00

60 0

Page 1

DAS

Quality Control

QA Closed:	Date:		WORK ORDE	L IACIA-C			U11/\ 1 F			
Qr. crosca:					0111 01	MINIAITEL / OI		ork Order uj	odate only	AEROSPACE
Work Order:			DISPOSITIO	ON			AGAINST DE	PARTMENT	/PROCESS	
Part No.			Use	ework Scrap e-as-is	Thern	Skid-tube Machining noforming	Crosstube Small Fab Finishing	-1	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR No.			Suspected Unappi	roved	·	Large Fab	Composite	]	Supplier	
Root Cause Da	te Step	Qty	Description of work order or non-conformance	· ·	Initial hief Eng	Act Descr	ion iption	Sign & Date	Verification	QC Inspector
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved						·				
**		٠		FA	ULT CAT	TEGORY				
Crac Crim Cuff Crus Hea Insp Mar Turr	re Not Concer ks p/Kink/Ripple	e/Wave	General  Bend  BOM/Route  Broken/Damage/De  Burrs  Contamination  Countersink  Cut Too Short  Drawing  Drill Holes  Finish  Fit/Function	efect	Grain Hardwa Inspect Instruct Misalig Mislabe Misread Off-set Out of 0	ion Incomplete/Ur ions Incomplete/U ned/off center iled		Outside Dim Over/Under Part Incorre Part Lost/M Part Moved Positioned V Power Loss/	tolerance ct issing Vrong	Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other

Work Order ID 120519 \*120519\* Page 2 Wednesday, June 04, 2014 3:07:26 PM Item ID: D3492-1 Accept \*N900040100\* Setup Start **Revision ID:** Stop **Item Name:** Plug **Start Date: Start Qty:** 60.00 6/04/14 \*60\* **Cust Item ID:** Required Date: 6/04/14 Req'd Qty: 60.00 \*60\* **Customer:** Reference: Run Start Process Plan: Approvals: Tooling: Date: Date: Stop QC: Date:\_\_\_\_\_ SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. **Work Center ID Description Run Hours** Qty Code **Qty** Number Stamp 150 Chemical Conversion Coat per QSI005 4.1 0.00 \*150\* 60 Algrep6-16 HandFinish Memo 0.00 Hand Finishing 160 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00 60-6 M-6-04. 333 \*160\* 0.00 Memo Powder Coating (Flat End Only) START TIME:

170

QC3- Inspect Part Finish

\*170\*

0.00

Quality Control

Powdercoat

OVEN TEMPERATURE:

FINISH TIME:

DAS

Memo

DQA:		,	Date:											DART
OA Classed			Datas			WORK ORDER NON	-CC	ONFO	RMANCE / UPI		ork Order up	ndate only		AEROSPACE
QA Closed:			Date:				_				OIK OIGET UP	date only		
Work Orde	er:					DISPOSITION				AGAINST D	PARTMENT	/PROCESS		
	•		······································		_	Rework			Skid-tube	Crosstube	]	Water Jet		Engineering
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.		Quality
	•					Use-as-is			moforming	Finishing	Rec/Stor	e/Packaging		Other
NCR N	lo.					Suspected Unapproved			Large Fab	Composite		Supplier		
Root	ĺ				Desc	ription of work order update	ı	nitial	Actio	on	Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descrip	otion	Date	Verification	<u>n  </u>	QC Inspector
Design														
Doc/Data														
Equip/Tooling	$\Box$	•												
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Material	Щ		İ											
Operator														
Offset/Setup														
Process														
Supplier	$\blacksquare$				Ì									
Training														
Transport														
Unapproved			l			·	L	III T CA	TECORY		<u> </u>			
							FA	ULI CA	TEGORY					
Landii	_					General Bend		احمانه ا	Program		Outside Dim	ensions		ressure/Forced
		Bending Centre No	ot Concor	atric		BOM/Route		Grain	riogiaili	-	Over/Under		$\vdash$	et-up
	H	Cracks	ot concer	ILIIC	-	Broken/Damage/Defect	$\vdash$	Hardwa	are		Part Incorre	!	$\vdash$	emperature/Cure
	Н	Crimp/Kir	nk/Rinnle	/\ <i>\</i> /2\/e		Burrs		4	tion Incomplete/Unq	ualified	Part Lost/Mi		——	Veld
	-	Cuffs	ik/itippie	/ wave		Contamination	$\vdash$	4 '	tions Incomplete/Un	·	Part Moved		$\vdash$	Vrong Stock Pulled
	$\vdash$	Crushing			-	Countersink	$\vdash$		gned/off center	-	Positioned V	ا Vrong	LJ	Ü
	<del> </del>	Heat Trea			<u> </u>	Cut Too Short	$\vdash$	Mislab			Power Loss/	-	$\Box$	Other
	<u> </u>	Inspectio		Tube		Drawing		Misrea		L		-		
	$\vdash$	Marks/Ch				Drill Holes		Off-set						
	<u> </u>	Turning S				Finish		4	Calibration					
		Wave/Tw	•			Fit/Function		Out of	Sequence					

Work Ord Wednesday, Ju				*120	7519*				77.			Page 3	=
Item ID: Revision ID: Item Name: Start Date: Required Date Reference:	D3492-1 Plug 6/04/14 e: 6/04/14	Start Qty: 60.00 Req'd Qty: 60.00	*60* *60*	Accept	*N900  Cust Item I Customer:	-	110	<b>N</b> *	Setup	Start Stop		IS1* IS2*	
Approvals:	Process P	lan:	Date:	Tooling: SPC (Y/N):		ate:			Run	Start Stop		R1*	
Sequence ID/ Work Center 180 *180* Packaging	ID	Operation Description Identify as per dwg & Stoc	k Location: FP-00(	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accep Qty	Qty		Reject Number	Insp.	<u> </u>
190 *1 QA* QC Quality Control		QC21- Final Inspection - V Memo	Vork Order Release	0.00				MU	<u>5</u>	14.	06-	25	

JAY 06.24

DQA:			Date:											"DART
OA Classel			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UP		\^/orl	Order ur	odate only	AEROSPACE
QA Closed:			Date.				_1							<u> </u>
Work Orde	or.					DISPOSITION				AGAINST I	DEPA	RTMENT	/PROCESS	
WOIR OIG			_		-	Rework			Skid-tube	Crosstube			Water Jet	Engineering
Part N	lo.					Scrap			Machining	Small Fab		Pro	d. Eng. Coor.	Quality
	-					Use-as-is			noforming	Finishing		Rec/Stor	re/Packaging	Other
NCR N	No.					Suspected Unapproved			Large Fab	Composite			Supplier	
				·							-			
Root					Desci	ription of work order update		nitial	Acti		ĺ	Sign &	.,	061
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	ption	_	Date	Verification	QC Inspector
Design		i												
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Equip/Tooling	_													
Handling/Pre	Ш		<b>§</b>											
Material	Ц		1									!		
Operator	Ш										-		-	
Offset/Setup														
Process	Ш													
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Training														
Transport														
Unapproved			<u> </u>						<u> </u>					
						- · · · · · · · · · · · · · · · · · · ·	FA	ULT CA	TEGORY					
Landi					_	General		1		г	<b>—</b> .			7
	-	Bending				Bend		4	Program	}		utside Dim	<u></u>	Pressure/Forced
	Ш	Centre No	ot Concer	ntric		BOM/Route	<u> </u>	Grain		}		ver/Under	-	Set-up
	$ldsymbol{}$	Cracks				Broken/Damage/Defect	<u> </u>	Hardwa			_	art Incorre	<u> </u>	Temperature/Cure
	Ш	Crimp/Kir	nk/Ripple	/Wave	<u> </u>	Burrs		1 '	ion Incomplete/Un	T I	_	art Lost/Mi	issing	Weld
	Н	Cuffs				Contamination	$ldsymbol{ldsymbol{eta}}$	4	tions Incomplete/U	nclear	_	art Moved	L	Wrong Stock Pulled
	Ш	Crushing				Countersink	<u></u>	-	gned/off center			ositioned V		<u> </u>
	Ш	Heat Trea	at			Cut Too Short		Mislab			P	ower Loss/	Surge	Other
	Ш	Inspectio	n Strip in	Tube		Drawing		Misrea						
		Marks/Ch	natter			Drill Holes	_	Off-set			_			
	Ш	Turning S	equence			Finish		-	Calibration			***		
		Wave/Tw	ist in Tul	be		Fit/Function		Out of	Sequence					

**Picklist Print** 

Wednesday, June 04, 2014 3:07:26 PM

Work Order ID: 120519

\*120519\*

Parent Item:

D3492-1

\*D3492-1\*

Parent Item Name: Plug

**Start Date:** 6/04/14

Required Date: 6/04/14

Page 1

**Start Qty:** 60.00

Required Qty: 60.00

**Comments:** 

IPP Rev:A 11.04.19 per dwg revC DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Sta Issued	tus
M6061T6R0.625		Purchased	No			100	· f	25.0575	0.0625	3.94737			<del></del>
*M6061T6 6061-T6 Round Bar .625"	RO 625	*							**	3.750'		DAS <b>20</b> 9-89	14-06-14

Location	Loc Qty	Loc Code	
MAT012	25.057474		
m126726	1.854474		
m1282654	19.856		-
m129167	3.347		4 3.750

DQA:			Date:			-							TART
						<b>WORK ORDER NON</b>	-CO	ONFO	RMANCE / UF				AEROSPACE
QA Closed:			Date:							W	ork Order up	date only	
Work Ord	er.					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
WORK OTC	٠٠٠.					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part f	No.					Scrap	1 1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is	1		noforming	Finishing	4	e/Packaging	— '—
NCR I	No.					Suspected Unapproved	1		Large Fab	Composite		Supplier	
											<b>.</b>		
Root		·			Desc	ription of work order update		Initial	Acti	ion	Sign &		
Cause	2	Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	iption	Date	Verification	n QC Inspector
Design	313	3											
Doc/Data													
Equip/Tooling													
Handling/Pre													
Material													
Operator											:		
Offset/Setup	Ш						1						
Process	Щ								-				
Supplier	Щ												
Training	$oxed{oxed}$												
Transport	Ш												
Unapproved			<u> </u>					LUT CA	FECORY				
1 1						Canaval	FA	ULI CA	TEGORY		***	·	
Landi		Bending				General Bend		lealia/E	Program		Outside Dim	ensions [	Pressure/Forced
	$\vdash$	Centre No	ot Concor	atric	-	BOM/Route	-	Grain	Togram	·	Over/Under	· ·	Set-up
	-	Cracks	or concei	ILIIC	-	Broken/Damage/Defect	-	Hardwa	are		Part Incorred		Temperature/Cure
		Crimp/Kir	nk/Rinnle	/Wave		Burrs		-1	ion Incomplete/Un	aualified —	Part Lost/Mi		Weld
		Cuffs	iny mppie	, wave	$\vdash$	Contamination	-	1	tions Incomplete/U	_	Part Moved	33.1.8	Wrong Stock Pulled
		Crushing			-	Countersink		4	gned/off center	-	Positioned V	. ∟ Vrong	
	$\vdash$	Heat Trea			$\vdash$	Cut Too Short	$\vdash$	Mislabe		<del> </del>	Power Loss/		Other
	$\vdash$	Inspectio		Tube		Drawing	$\vdash$	Misrea		<u> </u>	_ · · · · · · · · · · · · · · · · · · ·	٠ ١	· · · · · · · · · · · · · · · · · · ·
	$\vdash$	Marks/Ch	•			Drill Holes		Off-set					
		Turning S				Finish		4	Calibration	•		·	
		Wave/Tw	-			Fit/Function		Out of	Sequence				

DART AEROSPACE LTD	Work Order: 120	519
Description: Plug	Part Number: D	3492-1
Inspection Dwg: D3492 Rev: E	Pag	ge 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.060	+/-0.005	.058			5108	Vern
0.060	+/-0.005	.060				
Ø0.394	+/-0.010	. 394			SLOZ	Mic
Ø0.625	+/-0.010	. 394	/		1	
0.090	+0.000/-0.002	.0885	/		·	
0.500	+/-0.010	.0885	/			
0.050	+0.000/-0.002	.049			/	
0.050 x 20°	+/-0.010	.050	V		V	
	DAS		DA:	<b>5</b>		

 	 40		20	
Preliminary Approval:	9-89	Audited by:	9-89	Measured by:
Date:	14/06/15	Date:	14-06-14	Date:

Rev	Date	Change	Revised by	Approved
A	06.06.02	New Issue P/O D3492-041	KJ/JLM	
В	06.10.16	Ø0.625 was Ø0.500	KJ/JLM	Ĭ
С	07.11.23	Tolerances revised	KJ/EC/DD	
D	08.06.19	0.050 x 20° dimension added	KJ/DD	
Е	11.07.26	Dimensions updated per Dwg Rev D	KJ (A	41
F	14.01.21	Dwg Rev updated	KJ KJ	44

D3492-XX PLUG (SEE TABLE)--NAS1611 O-RING (SEE TABLE)

**D3492-XXX PLUG PARTS LIST** 

		077				QTY			,	_
QTY -041	-043	QTY -045	QTY -047	QTY -049	QTY -051	-053	-055	PART NUMBER	DESCRIPTION	1
X								D3492-041	PLUG ASSEMBLY	7
	Х		-					D3492-043	PLUG ASSEMBLY	
		Х						D3492-045	PLUG ASSEMBLY	
			X					D3492-047	PLUG ASSEMBLY	
				Х				D3492-049	PLUG ASSEMBLY	7
					Х			D3492-051	PLUG ASSEMBLY	٦
						X		D3492-053	PLUG ASSEMBLY	٦.
							X	D3492-055	PLUG ASSEMBLY	7Æ
										7
1								D3492-1	PLUG	4
	1						·	D3492-3	PLUG	
		1						D3492-5	PLUG	
			1					D3492-7	PLUG	
				1				D3492-9	PLUG	
i					1			D3492-11	PLUG	7
						1		D3492-13	PLUG	7
							1	D3492-15	PLUG	] <u>æ</u>
		1						NAS1611-005	O-RING	4
			1					NAS1611-007	O-RING	$\dashv$
1								NAS1611-010	O-RING	-
						1		NAS1611-012	O-RING	-
	1					_'_		NAS1611-012	O-RING	-
										$\dashv$
					1		1	NAS1611-015	O-RING	4
	l			1				NAS1611-016	O-RING	

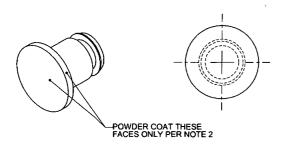
NOTES: 1) O-RING: POSSIBLE SUPPLIER P/N: NAS1611-XXX OR PARKER 2-XXX

SHOP COPY **RETURN TO ENGINEERING** UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER NO. 120519 MLJ (406-09

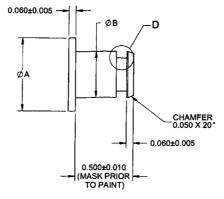
13 EL EASE 11 2013 -11- 13

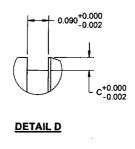
E	ADD -055 PLUG ASSY & -15 PLUG	AP	13.08.08
D	INCORPORATED DEG D3492-C-1. SHT 2 DIM C FOR -1 WAS 0.055. (SEE CAR11-048)	AJS	11.05.24
С	ADD -049/-051/-053, CHANGE DRAWING FORMAT	PH	07.10.05
В	ADD -047; UPDATE DIM A FOR -045	PH	06.05.11
Α	NEW ISSUE	PH	06.01.04
REV.	DESCRIPTION	BY	DATE

DESIGN	PH	DART AEROSPACE LTD			
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA			
CHECKED	455	DRAWING NO.	REV. E		
MFG. APPR.	177	D3492	SHEET 1 OF 2		
APPROVED	149	TITLE	SCALE		
DE APPR.	-# <del>*</del>	] PLUG	NTS		
DATE 13.0	8.08	COPYRIGHT © 2007 BY DART AEROSPACE LTD  THE DOQUEEN IS REVIATE AND CONFORMUL AND IS SEPLED ON THE EXPRESS CONDITION THAT IT IS 1907 TO BE USED FOR ANY PROPOSE ON CONFORMULT TO IT ANY OTHER PERSON WITHOUT			



С





**D3492-XX PLUG** 

Ø. 394 -7.294 . 298

## **D3492-XX PLUG MACHINING DETAILS**

P/N	A	В	С	MATERIAL SPEC	
D3492-1	0.625	0.394	0.050	M6061T6R0.625	
D3492-3	0.750	0.582	0.045	M6061T6R0.750	
D3492-5	0.375	0.188	0.045	M6061T6R0,375	
D3492-7	0.500	0.270	0.045	M6061T6R0.500	
D3492-9	0.938	0.750	0.045	M6061T6R1.000	
D3492-11	0.850	0.664	0.045	M6061T6R0.875	
D3492-13	0.750	0.510	0.045	M6061T6R0.750	
D3492-15	0.850	0.640	0.050	M6061T6R0.875	

D

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NOTES:
1) MATERIAL: ALUMINUM 5052-H32 OR 6061-T6 OR 1100-0 PER QQ-A-225/7 (5052) OR QQ-A-225/8 (6061) OR QQ-A-200/8 (6061) OR QQ-A-225/1 (1100) (REF. DART MATERIAL SPEC M6061T6R0.000)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE GLOSS (4.3.5.1) PER DART QSI 005 4.3 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED 4) UNITS: INCHES UNLESS OTHERWISE NOTED 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX 6) IDENTIFICATION: N/A 77) WEIGHT: N/A

6

DESIGN PH		│ DART AERO	OSPACE LTD	
DRAWN AP		HAWKESBURY, ONTARIO, CANADA		
CHECKED	AJS	DRAWING NO.	REV. E	
MFG. APPR.	177	D3492	SHEET 2 OF 2	
APPROVED	140	TITLE	SCALE	
DE APPR.	-	PLUG	4:1	
DATE 13.0	80.80	COPYRIGHT © 2007 BY DART AEROSPACE LTD  THIS DOCUMENT IS PROVIDE AND COMPRIDING AND IS QUENCED ON THE SEPTEMS CONCIDENT THAT IT IS  NOT TO BE USED FOR ANY PURPOSE ON COMPED ON COMMUNICATED TO ANY OTHER PERSON WITHOUT  WORTEN PERMISSION FROM DWITT AFRONMENT. 2.1D.		